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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/890,694	01/10/2002	Paulo Vicente Da Silva Marques	MCW-002US	6214

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EXAMINER

PETKOVSEK, DANIEL J

ART UNIT PAPER NUMBER

2874

DATE MAILED: 09/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/890,694

Applicant(s)

DA SILVA MARQUES ET AL.

Examiner

Daniel J Petkovsek

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-85 is/are pending in the application.
- 4a) Of the above claim(s) See Continuation Sheet is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 8-14, 16, 17, 20-26, 28-33, 36, 39, 42, 43, 50, 51, 53-55, 57-59, 62, 63, 65-67, 69-72, 77, and 78 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 1/10/2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6.

- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Continuation of Disposition of Claims: Claims withdrawn from consideration are 6,7,15,18,19,27,34,35,37,38,40,41,44-49,52,56,60,61,64,68,73-76 and 79-85.



Brian Healy
Primary Examiner

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DETAILED ACTION

This office action is in response to the preliminary amendment filed on August 3, 2001. In accordance with the amendment, claims 4, 5, 8-11, 13, 14, 16, 17, 20-26, 28, 29, 33, 36, 39, 42, 50, 53, 55, 57, 58, 62, 65-67, 69-72, 77, and 78 have been amended. Claims 6, 7, 15, 18, 19, 27, 34, 35, 37, 38, 40, 41, 44-49, 52, 56, 60, 61, 64, 68, 73-76 and 79-85 have been canceled.

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2. This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-5, 8, 12-14, 16, 17, 20, 22, 23, 28, 30-33, 36, 42, 50, 51, 53, 55, 57, and 58 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakazawa et al. U.S.P. No. 5,206,925.

Nakazawa et al. U.S.P. No. 5,206,925 teaches (ABS, figures 1, 4a-4d, 8) an optical waveguide (and inherent method of same) with multiple core layers comprising: a substrate 1; a waveguide core 3 comprising a first layer (7, 8) and a second layer 4; an upper cladding 9 embedding the waveguide core; in which the 1st core layer includes a dopant (ie Ge) to permit

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the layer to exhibit a photosensitive response, and in which the 2nd core layer includes a dopant (ie rare earth) to induce amplification of the optical signal. Regarding claims 2-5, 8, 12, 13, 14, 16, 17, 20, 22, 28, 31, 32, 36, 42, 50, 51, 53, 55, 57, and 58, these limitations are explicitly disclosed or inherent from the disclosure of Nakazawa et al. '925 (see columns related to figures 1, 4a-4d, and 8).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 9-11, 21, 24-26, 29, 39, 43, 54, and 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakazawa et al. U.S.P. No. 5,206,925.

Nakazawa et al. U.S.P. No. 5,206,925 teaches (ABS, figures 1, 4a-4d, 8) an optical waveguide (and inherent method of same) with multiple core layers comprising: a substrate 1; a waveguide core 3 comprising a first layer (7, 8) and a second layer 4; an upper cladding 9 embedding the waveguide core; in which the 1st core layer includes a dopant (ie Ge) to permit the layer to exhibit a photosensitive response, and in which the 2nd core layer includes a dopant (ie rare earth) to induce amplification of the optical signal. Nakazawa et al. '925 does not explicitly teach the dependent limitations of the material and manufacturing details as claimed. However, with the foundation for independent claims 1 and 30, these changes, although not explicitly taught by Nakazawa et al. '925 would have been obvious modifications to the planar

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optical waveguide as disclosed, as they are well known in the art to change the structure and properties of planar optical waveguides.

7. Claims 62, 63, 65-67, 69-72, 77, and 78 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakazawa et al. U.S.P. No. 5,206,925, as applied to claims 1 and 30 above, and further in view of Bazylenko U.S.P. No. 6,549,688.

Nakazawa et al. U.S.P. No. 5,206,925 teaches (ABS, figures 1, 4a-4d, 8) an optical waveguide (and inherent method of same) with multiple core layers comprising: a substrate 1; a waveguide core 3 comprising a first layer (7, 8) and a second layer 4; an upper cladding 9 embedding the waveguide core; in which the 1st core layer includes a dopant (ie Ge) to permit the layer to exhibit a photosensitive response, and in which the 2nd core layer includes a dopant (ie rare earth) to induce amplification of the optical signal. Nakazawa et al. '925 does not explicitly teach that a grating is formed in the waveguide core, or combinations thereof using mirrors, gratings, and coupling structures at the waveguide.

Bazylenko U.S.P. No. 6,549,688 teaches (Figs. 6 and 10, column 3 lines 20-35, column 9 line 49 through column 10 line 36) an optical waveguide with multiple core layers arranged concurrently therewith, having amplification properties by using certain dopants in the core layers. Bazylenko '688 also teaches this optical waveguide core region also being coupled with a mirror and/or grating structure for reflecting or guiding optical signals.

Since Nakazawa et al. '925 and Bazylenko '688 are both from the same field of endeavor, the purpose of using gratings/mirrors for reflecting or guiding optical signals in the

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core of the two-cored optical waveguide would have been recognized in the pertinent art of Nakazawa et al. '925.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use the teaching of Bazylenko '688 for using a grating/mirror in the core region of the waveguide of Nakazawa et al. '925 for the purpose of reflecting or guiding optical signals for a preferred functionality.

Inventorship

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure, with respect to the state of the art of optical waveguiding structure with multiple core layers: PTO-892 form references A-C.

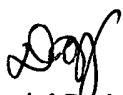
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J Petkovsek whose telephone number is (703) 305-6919.

The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (703) 308-4819. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 872-9321.



Daniel Petkovsek
September 3, 2003



Brian Healy
Primary Examiner